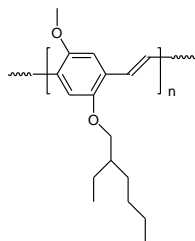


Sample Name: Poly(2-methoxy-5-[2'-ethylhexyloxy]-1,4-phenylenevinylene)

Sample #: P14996-MEHPPV

Structure:



Composition:

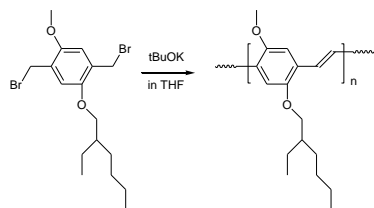
Mn x 10 ³	PDI
111.0	1.5

Synthesis Procedure:

MEH-PPV is obtained by polymerization of a,a'-dihalo-2-methoxy-5-(2-ethylhexyloxy)xylene under the base condition using tert.butoxy potassium salt. The scheme of the reaction is illustrated below¹. The molecular weight of the resulting polymer was controlled by adding appropriate amount of 4 methoxy phenol and by rate of addition of the monomer. The resulting polymer was precipitated in methanol.

Purification of the polymer:

The resulting polymer contain a small fraction of crosslinked polymer. It was removed by dissolving the polymer in THF (about 1-2% solution) and centrifugation at over 3000 rpm. The resulting clear red color solution was filtrate further through membrane under pressure. The resulting clear red color solution was precipitated in cold methanol and dried under vacuum at room temperature.



Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF or Chloroform. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive

and UV light scattering detectors. Two SEC columns from Supelco (G6000-4000- HXL) were used with triple detectors from Viscotek Co.

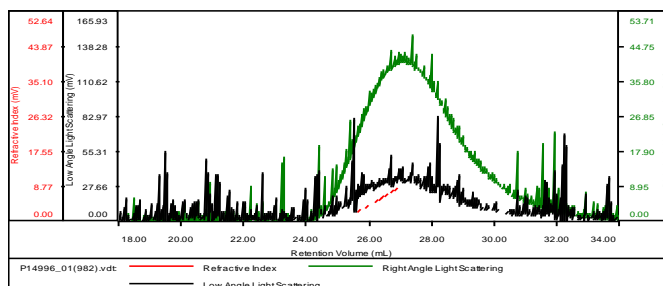
Solubility:

MEH-PPV is soluble in THF, CHCl₃. It precipitates from methanol.

SEC elugram of Homopolymer:

Sample ID-P14996-

Concentration (mg/mL)	0.1658
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-March2016-0001.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Rh (nm)	Ret Vol (mL)
P14996_01(982).v dt	110,781	169,402	1.529	4.0537	12.12	32.987

1. Reference:

C. J. Neef and J. P. Ferraris; *Macromolecules*, **2000**, 33, 2311-2314